

REMARKS

In a Non-Final Office Action dated July 7, 2003, the Examiner: (i) rejects claims 1 – 10 and 12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,127,059 (“Kato”); and (ii) rejects claim 11 under 35 U.S.C. § 103(a) over Kato in view of U.S. Patent No. 5,783,325 (“Cabasso”). For the reasons provided below, Applicants respectfully request reconsideration of the currently pending claims.

The claimed invention

Applicants’ claimed invention is directed to a gas diffusion structure that comprises four layers: (i) a hydrophobic layer on the top surface; (ii) a hydrophobic layer on the opposing surface; (iii) a central part of the substrate, which is free of hydrophobic polymer; and (iv) a contact layer that is located on top of one of the hydrophobic layers. This construction is shown in figure 1 of the pending application and is described on page 6, lines 5 –11. *See also* claim 1. Thus, Applicants’ claimed invention has two hydrophobic layers, one polymer free layer in the center and one additional contact layer. By contrast, prior art constructions typically have only two layers: (i) a homogenously impregnated carbon substrate that has been impregnated by a hydrophobic polymer; and (ii) a contact layer that has been added on top of the homogenously impregnated carbon substrate.

Response to rejection of claims 1 – 10 and 12

The Examiner rejects claims 1 –10 and 12 under 35 U.S.C. § 102(b) as being anticipated by Kato. Applicants respectfully submit that this rejection should be withdrawn for at least two reasons.

First, under 35 U.S.C. § 102(b), the invention must have been patented or described in a printed publication more than one year prior to the date of filing of the U.S. application. Kato issued as a patent on October 3, 2000. The present application was filed in the U.S. on April 30, 2001, which is less than one year after the issuance of

Kato. Accordingly, Kato is not prior art under 35 U.S.C. § 102(b).

Second, Kato discloses a conventional 2-layer gas diffusion substrate with a surface layer coated with a fluoropolymer resin that contains carbon black. Optionally, the substrate is pre-treated with a fluororesin. Kato does not describe the four layers of the claimed invention described above. Accordingly, Kato does not teach, disclose or otherwise suggest the claimed invention, and Applicants request that this rejection be withdrawn.

Response to rejection of claim 11

The Examiner rejects claim 11 under 35 U.S.C. § 103(a) over Kato in view of Cabasso. Claim 11 depends on claim 1. For the reasons described above that claim 1 is patentable over Kato, claim 11 is also patentable over Kato.

With respect to Cabasso, the Examiner has not pointed to any portion of Cabasso that describes the four layers of the claimed invention that as Applicants have noted above, are not taught, disclosed or otherwise suggested by Kato. Instead, Cabasso describes a GDL that is homogenously and asymmetrically porous to glass flow. Thus, even if one were motivated to combine Cabasso and Kato, one would not be motivated to develop the claimed invention.

Further, Cabasso is directed to a different problem than Applicants' invention. Cabasso is directed to a catalyzed gas diffusion electrode where the gas diffusion layer is made "anisotropic" with respect to gas flow directions, and a catalyst layer covers the second surface of the gas diffusion layer. By contrast, Applicants' invention is directed to an improved gas diffusion structure and does not require the use of a catalyst layer. Instead, a catalyst may, as described in pending claim 7, be added on top of the contact layer. Thus, Cabasso is directed to a different problem and there is an insufficient motivation to combine it with Kato to solve the problem addressed by the present invention.

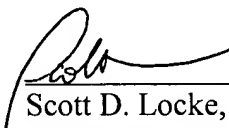
Applicants: Bayer *et al.*
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In view of the remarks set forth above, reconsideration and allowance are respectfully solicited.

Enclosed is a check in the amount of \$950.00, the requisite fee for the three-month extension of time. No additional fee is believed to be due with respect to the filing of this response. If any additional fee is due, or an overpayment has been made, please charge, or credit, Deposit Account No. 11-0171 for such sum.

If the Examiner has any questions regarding the present application, the Examiner is cordially invited to contact Applicants' attorney at the telephone number provided below.

Respectfully submitted,



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